

Serial No. 09/811,660
March 24, 2003
Page 2

IN THE CLAIMS:

1. (currently amended) A method for selecting a piezoelectric transformer having a desired characteristic which is performed in a method of manufacturing a piezoelectric transformer, comprising the steps of:

connecting a primary-side driving section of a piezoelectric transformer to a high-frequency generator while leaving a secondary-side generating section thereof in an open state;

causing said high-frequency generator to sequentially generate and sweep a high-frequency signal over a predetermined frequency range;

measuring a resonant frequency of an input-impedance-versus-frequency characteristic of the piezoelectric transformer; and

selecting ~~the characteristic of the piezoelectric transformer~~ if said piezoelectric transformer has a desired characteristic based on the value of the measured resonant frequency; and

rejecting the piezoelectric transformer if the piezoelectric transformer does not have a desired characteristic based on the value of the measured resonant frequency.

2. (original) The method according to claim 1, wherein the step of measuring the piezoelectric transformer is done while the piezoelectric transformer is in an isolated state in which the piezoelectric transformer is not mounted on a mounting substrate.

3. (original) The method according to claim 1, wherein only the input-impedance-versus-frequency characteristic of the piezoelectric transformer is measured.

4. (currently amended) A method for selecting a piezoelectric transformer having a desired characteristic which is performed in a method of manufacturing a piezoelectric transformer, comprising the steps of:

connecting a primary-side driving section of a piezoelectric transformer to a high-frequency generator while leaving a secondary-side generating section thereof in an

Serial No. 09/811,660
March 24, 2003
Page 3

open state;

causing said high-frequency generator to sequentially generate and sweep a high-frequency signal over a predetermined frequency range;

measuring a bandwidth of an input-impedance-versus-frequency characteristic of the piezoelectric transformer by subtracting a resonant-frequency f_r from an antiresonant-frequency f_a ; and

selecting the characteristic of the piezoelectric transformer if the piezoelectric transformer has a desired characteristic based on the value of the measured bandwidth; and

rejecting the piezoelectric transformer if the piezoelectric transformer does not have a desired characteristic based on the value of the measured bandwidth.

5. (original) The method according to claim 4, wherein the step of measuring the piezoelectric transformer is done while the piezoelectric transformer is in an isolated state in which the piezoelectric transformer is not mounted on a mounting substrate.

6. (original) The method according to claim 4, wherein only the input-impedance-versus-frequency characteristic of the piezoelectric transformer is measured.

7. (currently amended) A method for selecting a piezoelectric transformer having a desired characteristic which is performed in a method of manufacturing a piezoelectric transformer, comprising the steps of:

connecting a primary-side driving section of a piezoelectric transformer to a high-frequency generator while leaving a secondary-side generating section thereof in an open state;

causing said high-frequency generator to sequentially generate and sweep a high-frequency signal over a predetermined frequency range;

measuring a resonant resistance from an input-impedance-versus-frequency characteristic of the piezoelectric transformer; and

Serial No. 09/811,660

March 24, 2003

Page 4

~~selecting the characteristic of the piezoelectric transformer~~ if the piezoelectric transformer has a desired characteristic based on the value of the measured resonant resistance; and

rejecting the piezoelectric transformer if the piezoelectric transformer does not have a desired characteristic based on the value of the measured resonant resistance.

8. (original) The method according to claim 7, wherein the step of measuring the piezoelectric transformer is done while the piezoelectric transformer is in an isolated state in which the piezoelectric transformer is not mounted on a mounting substrate.

9. (original) The method according to claim 7, wherein only the input-impedance-versus-frequency characteristic of the piezoelectric transformer is measured.

10. (currently amended) A method for selecting a piezoelectric transformer having a desired characteristic which is performed in a method of manufacturing a piezoelectric transformer, comprising the steps of:

connecting a primary-side driving section of a piezoelectric transformer to a high-frequency generator while leaving a secondary-side generating section thereof in an open state;

causing said high-frequency generator to sequentially generate and sweep a high-frequency signal over a predetermined frequency range;

measuring a resonant frequency, a bandwidth, and a resonant resistance from an input-impedance-versus-frequency characteristic of the piezoelectric transformer in which the bandwidth is determined by subtracting a resonant-frequency f_r from an antiresonant-frequency f_a ; and

~~selecting the characteristic of the piezoelectric transformer~~ if the piezoelectric transformer has a desired characteristic based on the values of the measured resonant frequency, the bandwidth, and the resonant resistance; and

rejecting the piezoelectric transformer if the piezoelectric transformer does not

Serial No. 09/811,660
March 24, 2003
Page 5

have a desired characteristic based on the values of the measured resonant frequency, the bandwidth, and the resonant resistance.

11. (original) The method according to claim 10, wherein the step of measuring the piezoelectric transformer is done while the piezoelectric transformer is in an isolated state in which the piezoelectric transformer is not mounted on a mounting substrate.

12. (original) The method according to claim 10, wherein only the input-impedance-versus-frequency characteristic of the piezoelectric transformer is measured.

13. (currently amended) A method for selecting a piezoelectric transformer having a desired characteristic which is performed in a method of manufacturing a piezoelectric transformer, comprising the steps of:

connecting a primary-side driving section of a piezoelectric transformer to a high-frequency generator while leaving a secondary-side generating section thereof short-circuited;

causing said high-frequency generator to sequentially generate and sweep a high-frequency signal over a predetermined frequency range;

measuring a resonant frequency of an input-impedance-versus-frequency characteristic of the piezoelectric transformer; and

~~selecting the characteristic of the piezoelectric transformer~~ if the piezoelectric transformer has a desired characteristic based on the value of the measured resonant frequency; and

rejecting the piezoelectric transformer if the piezoelectric transformer does not have a desired characteristic based on the value of the measured resonant frequency.

14. (original) The method according to claim 13, wherein the step of measuring the piezoelectric transformer is done while the piezoelectric transformer is in an isolated state in which the piezoelectric transformer is not mounted on a mounting substrate.

Serial No. 09/811,660
March 24, 2003
Page 6

15. (original) The method according to claim 13, wherein only the input-impedance-versus-frequency characteristic of the piezoelectric transformer is measured.

16. (currently amended) A method for selecting a piezoelectric transformer having a desired characteristic which is performed in a method of manufacturing a piezoelectric transformer, comprising the steps of:

connecting a primary-side driving section of a piezoelectric transformer to a high-frequency generator while leaving a secondary-side generating section thereof short-circuited;

causing said high-frequency generator to sequentially generate and sweep a high-frequency signal over a predetermined frequency range;

measuring a bandwidth of an input-impedance-versus-frequency characteristic of the piezoelectric transformer by subtracting a resonant-frequency from an antiresonant-frequency; and

selecting the characteristic of the piezoelectric transformer if the piezoelectric transformer has a desired characteristic based on the value of the measured bandwidth;
and

rejecting the piezoelectric transformer if the piezoelectric transformer does not have a desired characteristic based on the value of the measured bandwidth.

17. (original) The method according to claim 16, wherein the step of measuring the piezoelectric transformer is done while the piezoelectric transformer is in an isolated state in which the piezoelectric transformer is not mounted on a mounting substrate.

18. (original) The method according to claim 16, wherein only the input-impedance-versus-frequency characteristic of the piezoelectric transformer is measured.

Serial No. 09/811,660

March 24, 2003

Page 7

19. (currently amended) A method for selecting a piezoelectric transformer having a desired characteristic which is performed in a method of manufacturing a piezoelectric transformer, comprising the steps of:

connecting a primary-side driving section of a piezoelectric transformer to a high-frequency generator while leaving a secondary-side generating section thereof short-circuited;

causing said high-frequency generator to sequentially generate and sweep a high-frequency signal over a predetermined frequency range;

measuring a resonant resistance of an input-impedance-versus-frequency-characteristic of the piezoelectric transformer; and

selecting the characteristic of the piezoelectric transformer if the piezoelectric transformer has a desired characteristic based on the value of the measured resonant resistance; and

rejecting the piezoelectric transformer if the piezoelectric transformer does not have a desired characteristic based on the value of the measured resonant resistance.

20. (original) The method according to claim 19, wherein the step of measuring the piezoelectric transformer is done while the piezoelectric transformer is in an isolated state in which the piezoelectric transformer is not mounted on a mounting substrate.

21. (original) The method according to claim 19, wherein only the input-impedance-versus-frequency characteristic of the piezoelectric transformer is measured.

22. (currently amended) A method for selecting a piezoelectric transformer having a desired characteristic which is performed in a method of manufacturing a piezoelectric transformer, comprising the steps of:

connecting a primary-side driving section of a piezoelectric transformer to a high-frequency generator while leaving a secondary-side generating section thereof short-circuited;

Serial No. 09/811,660
March 24, 2003
Page 8

causing said high-frequency generator to sequentially generate and sweep a high-frequency signal over a predetermined frequency range;

measuring a resonant frequency, a bandwidth, and a resonant resistance of an input-impedance-versus-frequency characteristic of the piezoelectric transformer in which the bandwidth is determined by subtracting a resonant-frequency from an antiresonant-frequency; and

selecting ~~the characteristic of the piezoelectric transformer~~ if the piezoelectric transformer has a desired characteristic based on the values of the measured resonant frequency, the bandwidth, and the resonant resistance; and

rejecting the piezoelectric transformer if the piezoelectric transformer does not have a desired characteristic based on the measured resonant frequency, the bandwidth, and the resonant resistance.

23. (original) The method according to claim 22, wherein the step of measuring the piezoelectric transformer is done while the piezoelectric transformer is in an isolated state in which the piezoelectric transformer is not mounted on a mounting substrate.

24. (original) The method according to claim 22, wherein only the input-impedance-versus-frequency characteristic of the piezoelectric transformer is measured.